

Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Mine Name: Henry Sloan No. 1
Mine IDs: 117, 118

Navajo AUM Western Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

20074.063.017.0020

August 2011

Part I Site Identification, Location and Status**Site Names and ID numbers as applicable****Mine ID:** 117; 118**Map ID:** 117: W13
118: W12**CERCLIS:** NNN000909207**Navajo Abandoned Mine Land Reclamation Program:** 117: NA-0505b
118: NA-0505a**Local name / Aliases:** Henry Sloan #1; Sloan #1**Chapter and local area:** Bodaway / Gap**County:** Coconino **State:** Arizona**Lat/Long:** 117: 36.1031985768 N / -111.39935516 W
118: 36.1054537227 N / -111.398030155 W**Nearby road and highway:** US-89 **Local Post Office:** Tuba City, AZ**Surface Land Status: check one or more and provide ownership and contact information below****Tribal Trust Land** ☒
Private ☐
Bureau of Land Mgmt ☐
State ☐**Public lands** ☐
Tribal Fee Land ☐
Allotment ☐
Fee land ☐**Subsurface Mineral Rights:**

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

Claim and operator information:

The mine surface land status is classified as Tribal Trust Land. Historical documents identified the operator of the mine as A & B Mining Corporation in 1954, and Harbough & Chinn in 1956. No additional historical ownership / lease information was identified in the EPA / AUM database.

Number of residential structures within 200 feet of mine: None

Part II Summary of Radiological Readings

Mine ID: 117

Highest gamma radiation measurement: 300,052 counts per minute (cpm)

Background Average: 16,713 cpm **Two Times Background:** 33,426 cpm

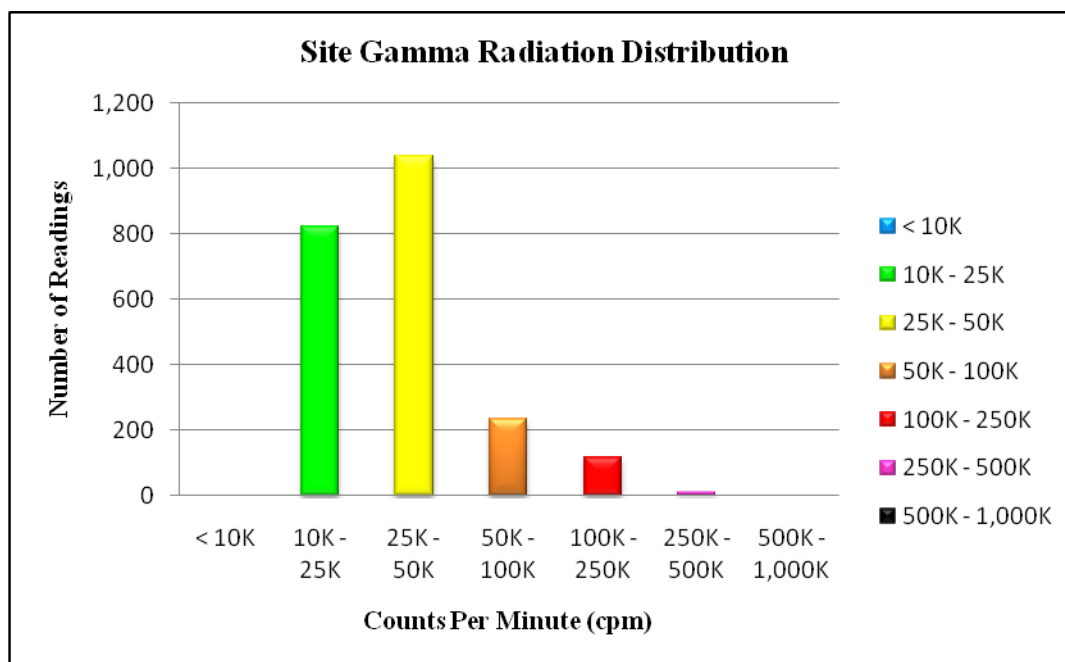
Describe any other radiological measurements:

A total of 2,221 gamma radiation measurements were collected from the mine site, ranging from 15,836 cpm to 300,052 cpm. Measurements collected in the vicinity of the waste rock were found at a maximum level of approximately 300,000 cpm. The measurements are represented in Figures 1 and 2.

Distribution Chart and Statistics:

Site Gamma Radiation Statistics

Number of Readings	2,221
Minimum (cpm)	15,836
Maximum (cpm)	300,052
Mean (cpm)	39,180
Median (cpm)	27,770
Standard Deviation	36,026

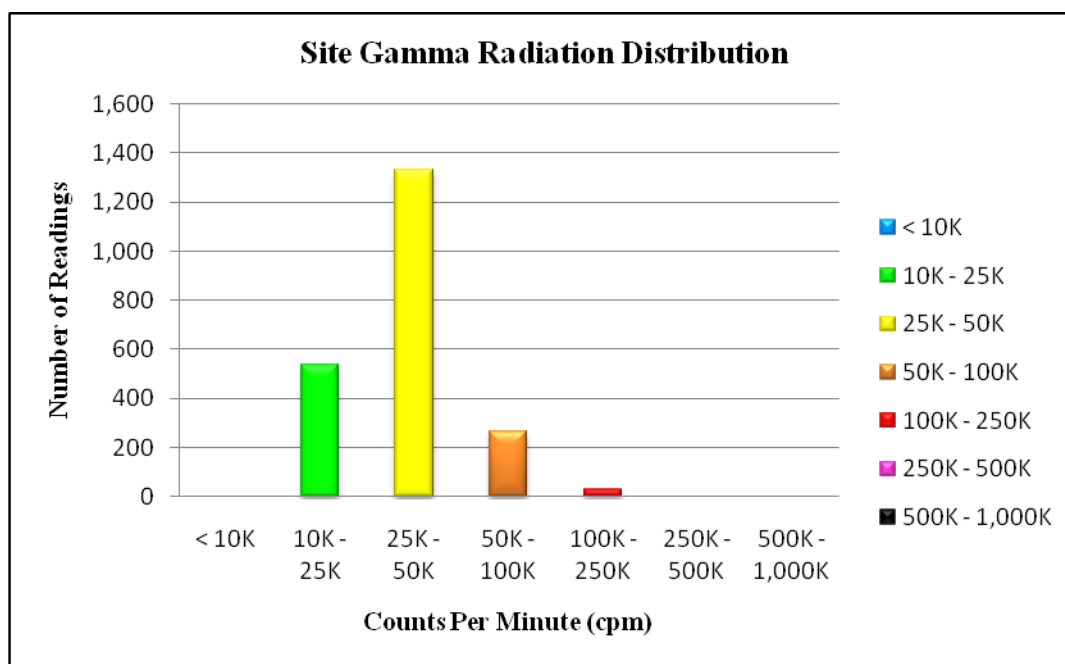


Mine ID: 118**Highest gamma radiation measurement:** 156,019 counts per minute (cpm)**Background Average:** 16,713 cpm **Two Times Background:** 33,426 cpm**Describe any other radiological measurements:**

A total of 2,168 gamma radiation measurements were collected from the mine site, ranging from 14,056 cpm to 156,019 cpm. Measurements collected in the vicinity of the waste rock were found at a maximum level of approximately 155,000 cpm, and the reclamation area of approximately 80,000 cpm. The measurements are represented in Figures 1 and 2.

Distribution Chart and Statistics:

Site Gamma Radiation Statistics	
Number of Readings	2,168
Minimum (cpm)	14,056
Maximum (cpm)	156,019
Mean (cpm)	36,708
Median (cpm)	31,837
Standard Deviation	17,258



Part III Status of Reclamation and Mine Waste

Mine ID: 117

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed: Yes Waste Pile onsite: No

NAMLRP Project Number: NA-0105b

NAMLRP Mine features: 1 Prospect

The following information was obtained from field observations collected during the 2011 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits:

None observed

Waste Piles:

5 waste rock piles: Pile 1: 6' dia x 2' h, large rust-colored rocks; Pile 2 - 4' dia x 2' h, rust-colored rocks; Pile 3 - 5' dia x 2' h, large rust-colored rocks; 2 small waste rock piles in the NW portion of site

Pits:

None observed

Shafts:

None observed

Other Debris and Mine Features:

None observed

Mine ID: 118

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed: Yes Waste Pile onsite: No

NAMLRP Project Number: NA-0105a

NAMLRP Mine features: 1 Prospect

The following information was obtained from field observations collected during the 2011 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits:

None observed

Waste Piles:

2 waste rock piles: Pile 1 - 8'x3'x2.5', beneath erosion control berms near road; Pile 2 - 4' dia x 1.5' h

Pits:

None observed

Shafts:

None observed

Other Debris and Mine Features:

2 reclamation caps; Cap 1 - northern portion of site, erosion control berms, nearby tailings which might be waste debris used to prevent erosion; Cap 2 - southeast portion of site, erosion control berms, nearby tailings

Part IV Site Observations and Environs

Observed Residential Structures (number and human habitation status of structures at the following distances from the mine site):

0 to 200 feet: None observed

200 feet to 0.25 mile: None observed

Observed Public or Commercial Structures (schools, clinics, Chapter Houses, places of business and any other structures used by members of the community at the following distances from the mine site):

0 to 200 feet: None observed

200 feet to 0.25 mile: None observed

Levels measured around the perimeter(s) of the identified structure(s):

None

Observed Water Sources (number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine site):

0 to 0.25 miles: None observed

0.25 miles to 4 miles: None observed

Sensitive Environments (all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation):

The sites are located within a wash area which may contain seasonal tributaries to the Little Colorado River

Known Site History (information from interviews with Chapter officials and residents and database review, includes: mine ownership, type of mining operation, period of operation, known amount of production, and any other information provided):

The Henry Sloan No. 1 mine claim consists of two separate mine sites (#'s 117, 118) with a total combined area of 58,599.34 m². The mine was identified as being operational from 1954 to 1956. While operational, the mine had a total reported production volume of 353 tons. The mine surface land status is classified as Tribal Trust Land. Historical documents identified the operator of the mine as A & B Mining Corporation in 1954, and Harbough & Chinn in 1956. No additional historical ownership / lease information was identified in the EPA / AUM database.

Part V Response Action Summary

Summary of Evaluation Factors:

Accessibility:

Was the mine easily accessible to potential human activity?

Yes

Radiological Measurements:

Were any gamma radiation measurements collected at the mine greater than two times the site-specific background levels?

Yes

Waste Piles:

Were any unreclaimed waste piles observed at the mine with gamma radiation measurements greater than two times the site-specific background levels?

Yes

Structures:

Were any structures observed within 200 feet of the mine?

No

Potential Drinking Water Sources:

Were any potential drinking water sources observed within 4 miles of the mine?

No

Reclamation:

Was the mine reported to be previously reclaimed, or did the mine appear to be reclaimed?

Yes

Part VI Photos



Photo 1: Mine Site #117



Photo 2: Mine Site #117



Photo 3: Mine Site #117; Waste pile 1



Photo 4: Mine Site #117; Waste pile 2



Photo 5: Mine Site #117; Waste pile 3



Photo 6: Mine Site #117; Elevated readings in drainage



Photo 7: Mine Site #117; Waste pile 4



Photo 8: Mine Site #117; Waste pile 5



Photo 9: Mine Site #118; Erosion control berms



Photo 10: Mine Site #118; Tailings and Hwy 89



Photo 11: Mine Site #118; Compromised erosion control berms



Photo 12: Mine Site #118; Waste piles



Photo 13: Mine Site #118; Tailings



Photo 14: Mine Site #118; Debris from erosion control berms

Part VII Contacts Reports and Information

Name: Eugene Esplain

Title or official role (if any): Navajo EPA Superfund Program

Telephone number: (928) 871-7331

Address: PO Box 2946, Window Rock, AZ 86515

Information provided: Lead Regulatory Agency

Name: _____

Title or official role (if any): _____

Telephone number: _____

Address: _____

Information provided: _____

Name: _____

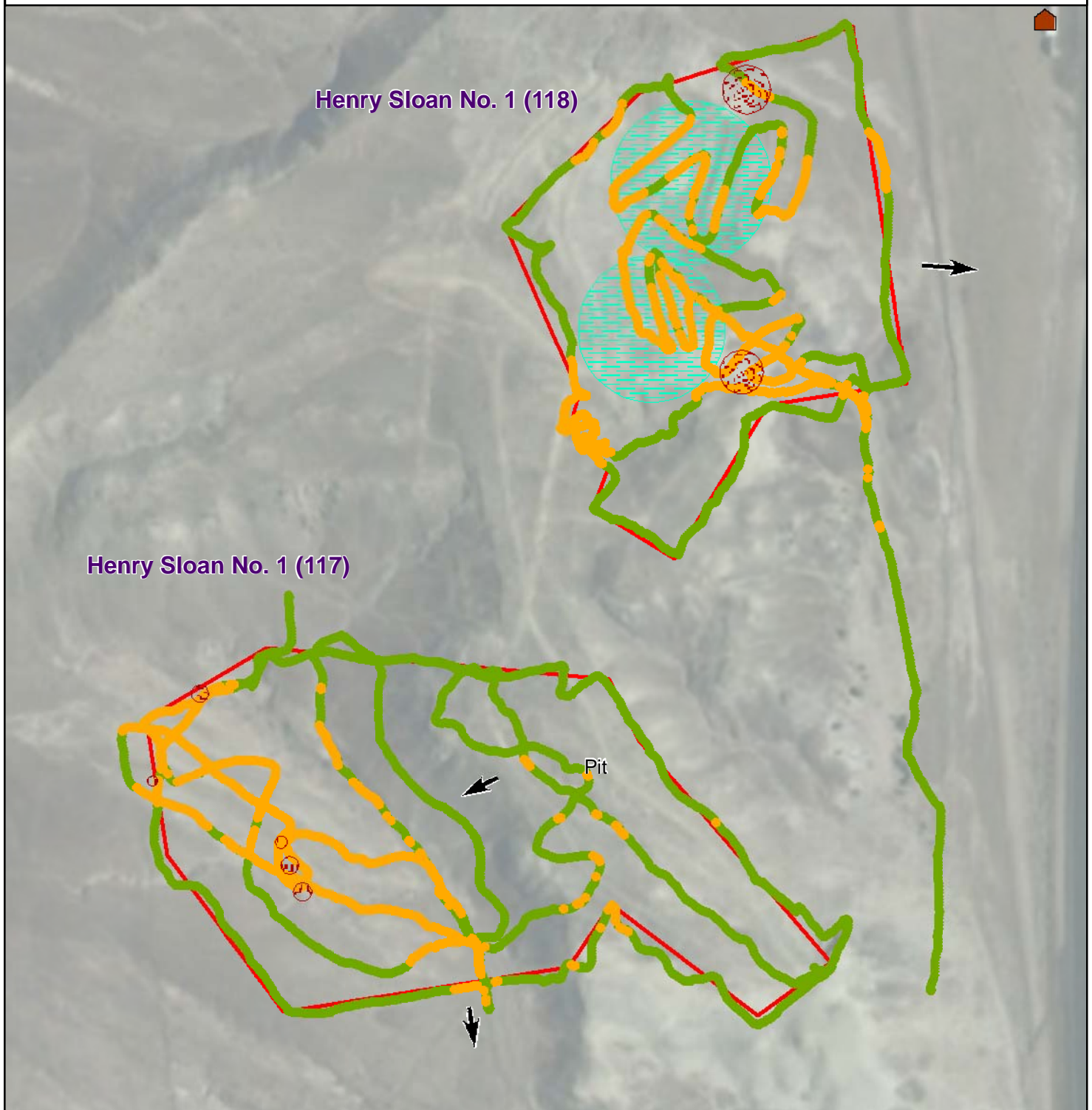
Title or official role (if any): _____

Telephone number: _____

Address: _____

Information provided: _____

**Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Henry Sloan No. 1 (117, 118)
Bodaway / Gap Chapter, Navajo Nation**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Measured as counts per minute (cpm)

Average background 16,713 cpm

- Mine Site Boundary
- General Slope Direction
- Observed Reclamation Feature
- Observed Waste Pile
- Observed Structure
- Steep Grade

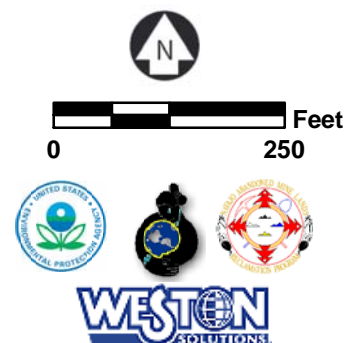
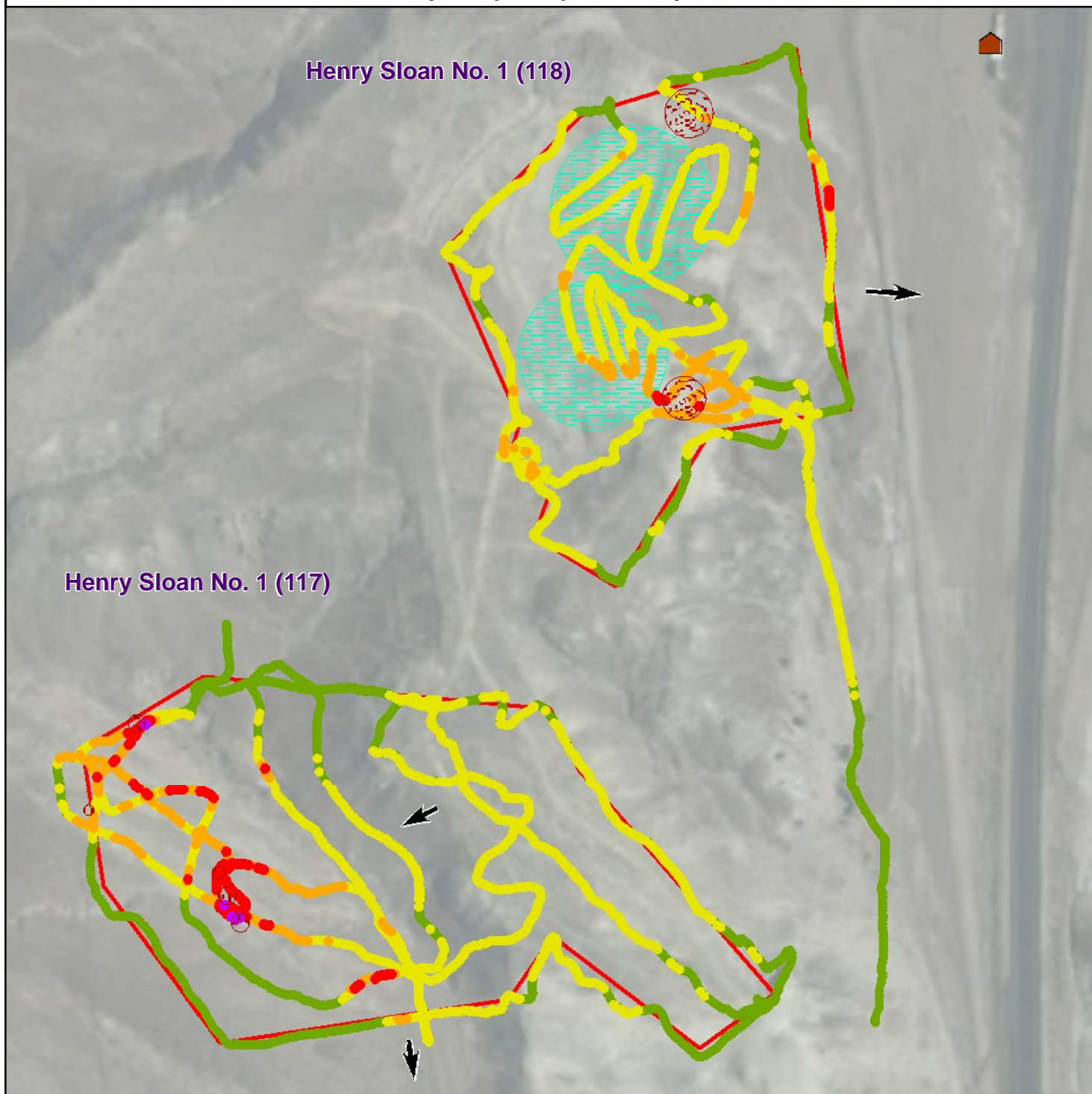


Figure 2 - Gamma Radiation Measurements
Henry Sloan No. 1 (117, 118)
Bodaway / Gap Chapter, Navajo Nation



Gamma Radiation Measurements

- 0 - 10,000 cpm
- 10,000 - 25,000 cpm
- 25,000 - 50,000 cpm
- 50,000 - 100,000 cpm
- 100,000 - 250,000 cpm
- 250,000 - 500,000 cpm
- 500,000 - 1,000,000 cpm

- Mine Site Boundary
- General Slope Direction
- Observed Reclamation Feature
- Observed Waste Pile
- Observed Structure
- Steep Grade



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Measured as counts per minute (cpm) Average background 16,713 cpm